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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,080

02/27/2004

Katsutoshi Misuda

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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT

PAPER NUMBER

1774

MAIL DATE

DELIVERY MODE

07/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/787,080

Applicant(s)

MISUDA ET AL.

Examiner

Betelhem Shewareged

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/945,760.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's response filed on 04/26/2007 has been fully considered. Claims 1-12 are canceled, claim 17 is added, and claims 13-17 are pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misuda et al. (US 6,114,020) in view of Mishima (US 6,183,851 B1), Ohbayashi et al. (US 6,492,005 B1) and Smith et al. (US 5,175,133).
4. Misuda discloses a recording medium comprising an ink receiving layer on a base material (col. 3, line 54 and col. 4, line 25). The ink receiving layer comprises alumina hydrate having a pseudoboehmite structure (col. 6, line 14), and formed by hydrolyzing aluminum alkoxide and treating the resultant hydrolyzate by deflocculation process (col. 6, line 1). The particle size of the alumina hydrate is 1 μm or smaller (col. 4, line 52). The ink receiving layer further comprises a binder (col. 4, line 56), and the mixing ratio of the alumina hydrate and the binder is 1:1 to 30:1 (col. 5, line 4). Misuda does not disclose the use of alumina having gamma crystal structure.
5. Misuda discloses the claimed invention except the use of alumina hydrate particles instead of the use of gamma alumina particles. Mishima shows that gamma

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alumina particles are equivalent particles known in the ink jet recording art (col. 8, lines 50-67 of Mishima). Therefore, because these two types of particles were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the alumina hydrate particles for gamma alumina particles.

6. Misuda does not disclose the ink receiving layer as the outer layer of the recording medium. However, having the ink receiving layer as the outer layer of the recording medium is notoriously known in the ink jet recording medium art (see abstract of Ohbayashi).

7. Misuda does not disclose the claimed separation treatment. However, dewatering step such as centrifugation or filtration during production of ceramic particles such as alumina is well known (col. 7, line 64 of Smith).

### ***Response to Arguments***

8. Applicant's argument is based on that Misuda does not teach the use of  $\gamma$ -alumina having a particle size of at least 0.21 $\mu$ m and at most 1 $\mu$ m, and Mishima, Ohbayashi and/or Smith do not teach the particle size of at least 0.21 $\mu$ m and at most 1 $\mu$ m. This argument is not persuasive because Mishima teaches the use of  $\gamma$ -alumina having a particle size of 0.004-0.3 $\mu$ m (col. 8, lines 50-62), wherein this value overlaps with the claimed range.

***New Rejection***

9. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misuda et al. (US 6,114,020) in view of Mishima (US 6,183,851 B1), Ohbayashi et al. (US 6,492,005 B1), Smith et al. (US 5,175,133) and Hoshino et al. (US 6,472,052 B1).

10. Misuda discloses a recording medium comprising an ink receiving layer on a base material (col. 3, line 54 and col. 4, line 25). The ink receiving layer comprises alumina hydrate having a pseudoboehmite structure (col. 6, line 14), and formed by hydrolyzing aluminum alkoxide and treating the resultant hydrolyzate by deflocculation process (col. 6, line 1). The particle size of the alumina hydrate is 1  $\mu$ m or smaller (col. 4, line 52). The ink receiving layer further comprises a binder (col. 4, line 56), and the mixing ratio of the alumina hydrate and the binder is 1:1 to 30:1 (col. 5, line 4). Misuda does not disclose the use of alumina having gamma crystal structure.

11. Misuda discloses the claimed invention except the use of alumina hydrate particles instead of the use of gamma alumina particles. Mishima shows that gamma alumina particles are equivalent particles known in the ink jet recording art (col. 8, lines 50-67 of Mishima). Therefore, because these two types of particles were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the alumina hydrate particles for gamma alumina particles.

12. Misuda does not disclose the ink receiving layer as the outer layer of the recording medium. However, having the ink receiving layer as the outer layer of the

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recording medium is notoriously known in the ink jet recording medium art (see abstract of Ohbayashi).

13. Misuda does not disclose the claimed separation treatment. However, dewatering step such as centrifugation or filtration during production of ceramic particles such as alumina is well known (col. 7, line 64 of Smith).

14. With respect to claim 17: At the of the invention, it would have been obvious to a person of ordinary skill in the art to perform the deflocculating process by an ultrasonic treatment because such technique is notoriously know before the claimed invention (see col. 5, lines 48 and 49 of Hoshino).

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

16. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on MAX FLEX.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS  
July 15, 2007.

  
BETELHEM SHEWAREGED  
PRIMARY EXAMINER